

WHAT IS CLAIMED IS:

1 1. A system for identifying a scrambling code from signals received from
2 a base station, comprising:
3 a scrambling code generator configured to generate a master scrambling code;
4 control logic configured to generate a plurality of individual scrambling codes
5 based on the master scrambling code, the plurality of individual scrambling codes being
6 sequential and any two adjacent individual scrambling codes having a predetermined chip
7 offset; and
8 a plurality of correlators configured to perform correlations and generate
9 correlation results, each correlator configured to correlate the received signals with a
10 corresponding one of the plurality of individual scrambling codes and generate corresponding
correlation results, the plurality of correlators performing their correlations in a parallel
manner.

2 2. The system according to claim 1 wherein the correlation results
3 generated by the plurality of correlators are evaluated to identify the scrambling code from
4 the received signals thereby allowing the identity of the base station which transmitted the
5 received signals to be identified.

6 3. The system according to claim 1 wherein the plurality of correlators
7 perform their correlations in a real-time manner.

8 4. A mobile terminal incorporating the system as recited in claim 1.

1 5. The system according to claim 1 wherein the base station is located in
2 a W-CDMA communication network.

3 6. A system for identifying a scrambling code from signals received from
4 a base station, the base station belonging to one of a plurality of base station groups in a
5 communication network, the system comprising:
6 a scrambling code generator configured to generate a master scrambling code;
7 control logic configured to generate a plurality of individual scrambling codes
8 based on the master scrambling code, the plurality of individual scrambling codes being
sequential and any two adjacent individual scrambling codes having a predetermined chip
offset; and

1 14. The method of claim 12 wherein the base station belongs to one of a
2 plurality of base station groups in a communication network and the step of generating the
3 master scrambling code further comprises:
4 selecting a correlation length; and
5 generating the master scrambling code using the selected correlation length
6 and a predetermined group chip offset.

1 15. The method of claim 14 wherein the predetermined group chip offset is
2 determined by number of base stations within a base station group and the predetermined
3 chip offset.

1 16. The method of claim 12 wherein the correlations are performed in a
2 real-time manner.

1 17. A mobile terminal utilizing the method as recited in claim 12.

1 18. The method according to claim 12 wherein the base station is located
2 in a W-CDMA communication network.

1 19. A system for identifying a scrambling code from signals received from
2 a base station, comprising:

3 means for generating a master scrambling code;

4 means for generating a plurality of individual scrambling codes, wherein the
5 plurality of individual scrambling codes are sequential and any two adjacent individual
6 scrambling codes are separated by a predetermined chip offset; and

7 means for correlating the received signals with each of the plurality of
8 individual scrambling codes in a parallel manner and generating correlation results therefor.

1 20. The system according to claim 19 further comprising:

2 means for evaluating the correlation results to identify the scrambling code
3 from the received signals thereby allowing the identity of the base station which transmitted
4 the received signals to be identified.

1 21. The system of claim 19 wherein the means for correlating performs its
2 correlations in a real-time manner.

1 22. A mobile terminal utilizing the system as recited in claim 19.

1 23. The system according to claim 19 wherein the base station is located in
2 a W-CDMA communication network.